

1 CLAIMS

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3 1. In a system having a server and a client, a method comprising:
4 installing server support for a peripheral device attached at the client
5 transmitting server support configuration information related to the
6 peripheral device to the client; and
7 storing the transmitted server support configuration information at the
8 client.

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10 2. The method recited in claim 1, further comprising transmitting the
11 server support configuration information from the client to the server upon
12 reconnection of the client and the server.

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14 3. The method recited in claim 1, further comprising:
15 disconnecting the client from the server;
16 establishing a new connection between the client and the server;
17 transmitting the configuration information stored at the client to the server;
18 utilizing the transmitted configuration information at the server to
19 automatically restore the server support for the peripheral device without requiring
20 significant interaction from a user.
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2 4. The method recited in claim 1, further comprising:
3 disconnecting the client from the server;
4 establishing a new connection between the client and a different server;
5 transmitting the configuration information stored at the client to said
6 different server;
7 utilizing the transmitted configuration information at said different server to
8 automatically install server support for the peripheral device without requiring
9 significant interaction from a user.

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11 5. The method recited in claim 1, the peripheral device having
12 peripheral device settings, the method further comprising:
13 transmitting the peripheral device settings from the client to the server upon
14 the establishment of a connection between the client and the server;
15 transmitting the peripheral device settings from the server to the client
16 together with the configuration information; and
17 storing the peripheral device settings at the client.

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19 6. The method recited in claim 5, further comprising retransmitting the
20 peripheral device settings from the client to the server whenever a peripheral
21 device setting is changed.

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23 7. The method recited in claim 5, wherein the peripheral device settings
24 are transmitted contemporaneously with the configuration information.
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1 8. The method recited in claim 1, wherein the peripheral device
2 comprises a printer.

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4 9. The method recited in claim 1, further comprising:
5 uninstalling server support for the peripheral device attached at the client;
6 transmitting new server support configuration information to the client, the
7 new server support configuration information indicating that server support for the
8 peripheral device has been uninstalled; and
9 deleting the stored configuration information related to the uninstalled
10 peripheral device from the client.

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12 10. The method recited in claim 9, wherein the deleting is accomplished
13 by overwriting the stored configuration information with the new server
14 configuration information.

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16 11. The method recited in claim 1, further comprising:
17 renaming a queue associated with the peripheral device that was created
18 when the peripheral device was installed on the server;
19 transmitting subsequent configuration information from the server to the
20 client, the configuration information denoting the renamed queue; and
21 storing the subsequent configuration information denoting the renamed
22 queue at the client.

1 **12.** The method recited in claim 1, wherein the configuration
2 information includes one or more of the following: peripheral device name, port
3 name, queue name, queue redirection information, redirected port information,
4 and driver name.

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6 **13.** One or more computer-readable media having a computer program
7 which, when executed on a computer, performs the method of claim 1.

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9 **14.** In a system, a server method comprising:
10 installing server support for a peripheral device attached at a client ; and
11 transmitting server support configuration information related to the
12 peripheral device to the client.

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14 **15.** The method recited in claim 14, further comprising:
15 uninstalling the server support for the peripheral device; and
16 transmitting updated server support configuration information to the client
17 indicating that support for the peripheral device has been uninstalled.

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2 **16.** The method recited in claim 14, further comprising:
3 uninstalling the server support for the peripheral device in response to the
4 client being disconnected from the server;
5 receiving the server support configuration information from the client upon
6 reconnection with the client; and
7 installing the server support for the peripheral device on the server in
8 accordance with the received server support configuration information.

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10 **17.** The method recited in claim 14, further comprising:
11 receiving peripheral device settings from the client, the peripheral device
12 settings pertaining to the peripheral device attached at the client;
13 transmitting the peripheral device settings to the client.

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15 **18.** The method recited in claim , further comprising:
16 receiving peripheral device settings from the client, the peripheral device
17 settings pertaining to the peripheral device attached at the client;
18 transmitting the peripheral device settings to the client together with the
19 server configuration information.

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21 **19.** In a server/client system, a client method comprising:
22 transmitting information to a server identifying a peripheral device attached
23 at a client;
24 receiving server configuration information relating to installation of the
25 peripheral device at the server; and

1 storing the server configuration information.

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3 **20.** The method recited in claim 19, further comprising:

4 transmitting information to the server regarding a peripheral device that has
5 been detached from the client;

6 receiving updated server configuration information indicating the removal
7 of data structures associated with the detached peripheral device; and

8 storing the updated server configuration information.

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11 **21.** The method recited in claim 19, wherein the peripheral device
12 attached at the client has peripheral device settings, the method further
13 comprising:

14 transmitting the peripheral device settings to the server;

15 receiving the peripheral device settings from the server; and

16 storing the peripheral device settings at the client.

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18 **22.** The method recited in claim 21, further comprising retransmitting
19 the peripheral device settings when a peripheral device setting is changed.

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21 **23.** The method recited in claim 19, wherein the peripheral device is a
22 printer.

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2 **24.** The method recited in claim 19, further comprising:
3 transmitting information to the server to change a name of a queue
4 associated with the peripheral device;
5 receiving updated server configuration information including the changed
6 name of the queue; and
7 storing the updated server configuration information.

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9 **25.** A server/client system, comprising:
10 a server;
11 a client;
12 at least one peripheral device connected at the client;
13 the server being configured to install the peripheral device and transmit
14 configuration information related to the peripheral device to the client; and
15 the client being configured to store the transmitted configuration
16 information.

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18 **26.** The server/client system recited in claim 25, wherein:
19 the client is further configured to disconnect from the server, reconnect
20 with the server, and transmit the stored configuration information to the server;
21 and
22 the server is further configured to receive the configuration information
23 transmitted from the client, and automatically reinstall the peripheral device
24 utilizing the configuration information without requiring significant interaction by
25 a user of the system.

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2 **27.** The server/client system recited in claim 25, wherein the client is
3 further configured to disconnect from the server, reconnect to a server in a second
4 server/client system, and automatically provide server configuration information
5 to the second server enabling the second server to automatically install the
6 peripheral device on the second server without requiring significant user
7 interaction.

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9 **28.** The server/client system recited in claim 25, wherein:
10 the peripheral device comprises peripheral device settings;
11 the client is further configured to transmit the peripheral device settings to
12 the server, receive the peripheral device settings from the server, and store the
13 peripheral device settings on the client.

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15 **29.** The server/client system recited in claim 28, wherein the client is
16 further configured to transmit the peripheral device settings in response to a
17 change in the peripheral device settings.

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19 **30.** The server/client computer system recited in claim 25, wherein the
20 one or more peripheral devices comprises one or more printers.
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2 **31.** The server/client computer system recited in claim 25 wherein:

3 the server is further configured to uninstall the peripheral device and
4 transmit updated configuration information to the client, the updated configuration
5 information indicating that the peripheral device has been uninstalled; and

6 the client is further configured to overwrite the stored configuration
7 information with the updated configuration information.
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9 **32.** The server/client computer system recited in claim 25 wherein the
10 server is further configured to create a virtual port that is utilized by the client, and
11 include information regarding the virtual port in the configuration information sent
12 to the client.
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14 **33.** A server system, comprising:

15 a printing subsystem configured to install a printer connected to a client and
16 create a printer queue associated with the printer; and

17 a configuration tracking unit configured to determine server configuration
18 parameters related to the installed printer and transmit the server configuration
19 parameters to the client.
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21 **34.** The server system as recited in claim 33, wherein the printer
22 includes printer settings and the tracking unit is further configured to receive the
23 printer settings from the client and transmit the printer settings to the client.
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1 **35.** The server system as recited in claim 33, wherein the printing
2 subsystem is further configured to uninstall the client printer, receive the server
3 configuration parameters stored on the client, and automatically reinstall the
4 printer without requiring significant user interaction.

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6 **36.** A client for use in a server/client system, comprising:
7 a processor;
8 memory;
9 an operating system executable on the processor;
10 server configuration information stored in the memory;
11 at least one printer port;
12 a printer connected to the printer port;
13 wherein the operating system is configured to transmit information to a
14 server indicating that the printer is connected to the client, to receive server
15 configuration information from the server, and store the server configuration
16 information in the memory.

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18 **37.** The client system as recited in claim 36, wherein the printer
19 comprises printer parameter settings, and the operating system is further
20 configured to transmit the printer parameter settings to the server, receive the
21 printer parameter settings from the server, and store the printer parameter settings
22 in the memory.
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1 **38.** The client system as recited in claim 37, wherein the operating
2 system is further configured to transmit, receive and store the printer parameter
3 settings whenever the printer parameter settings are changed.

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5 **39.** The client system as recited in claim 36, wherein the operating
6 system is further configured to transmit information to a server indicating that the
7 printer has been disconnected from the client, receive updated server configuration
8 information from the server reflecting that the printer is no longer installed, and
9 store the updated server configuration information in the memory.

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11 **40.** The client system as recited in claim 36, wherein the operating
12 system is further configured to transmit the stored server configuration information
13 to the server upon reconnection with the server, thereby enabling the server to
14 reinstall the printer without significant interaction with a client user.

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16 **41.** The client system as recited in claim 36, wherein the operating
17 system is further configured to transmit the stored server configuration
18 information to a second server upon connection with the second server to enable
19 the second server to automatically install the printer without significant user
20 interaction.

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2 **42.** One or more computer-readable media having a computer program,
3 when executed by a computer, performs the following steps:
4 identifying one or more peripheral devices connected at a client;
5 installing the one or more peripheral devices at a server connected to the
6 client;
7 transmitting server configuration information related to the one or more
8 peripheral devices from the server to the client; and
9 storing the server configuration information on the client.
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11 **43.** The computer-readable media as recited in claim 42, wherein the
12 computer program further comprises the steps of:
13 disconnecting the client from the server;
14 reconnecting the client to the server;
15 transmitting the server configuration information from the client to the
16 server; and
17 automatically installing the one or more peripheral devices utilizing the
18 transmitted server configuration information without requiring significant user
19 interaction.
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2 **44.** The computer-readable media as recited in claim 42, wherein the
3 computer program further comprises the steps of:

4 transmitting peripheral device parameter settings from the client to the
5 server;

6 receiving the peripheral device parameter settings from the server to the
7 client; and

8 storing the peripheral device parameter settings on the client.

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10 **45.** The computer-readable media as recited in claim 42, wherein at
11 least one of the one or more peripheral devices is a printer.

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13 **46.** The computer-readable media as recited in claim 42, wherein the
14 computer program further comprises the steps of:

15 requesting that a queue associated with an installed peripheral device be
16 renamed;

17 renaming the queue;

18 transmitting updated server configuration information from the server to the
19 client, the updated server configuration information including the new queue
20 name; and

21 storing the updated server configuration information on the client.
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